## REMARKS

Claims 1, 3, 9-13, 17-18 and 21-22 are all the claims presently pending in this application. Claims 1, 3 and 17 have been amended to more particularly define the claimed invention. Claims 21-22 have been added to claim additional features of the claimed invention. An Excess Claim Fee Payment Letter (and fee) is attached hereto. Claims 2, 4-8, 14-16 and 19-20 have been canceled.

It is noted that the amendments are made only to more particularly define the invention and **not** for distinguishing the invention over the prior art, for narrowing the scope of the claims, or for any reason related to a statutory requirement for patentability. It is further noted that, notwithstanding any claim amendments made herein, Applicant's intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

Applicant gratefully acknowledges the Examiner's indication that claims 14, 16 and 20 would be allowable if rewritten in independent form. Applicant has included the allowable subject matter of claims 16 and 20 into new independent claims 21-22, thereby to pass all the claims to allowance. However, Applicant submits that all of the claims are allowable.

The Drawings are objected to as not showing every feature of the claimed invention. Applicant has canceled claim 14 accordingly.

Claims 1-20 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner states that Applicant's claim language of, "*a detection value conversion unit which converts*," is indefinite, and that "Applicant is silent in regards to what this unit is converting."

Applicant respectfully traverses this rejection and maintains that the claimed invention is very clear on its face as to what the detection value conversion unit is converting, namely, "*the phase moving amount detection values*," that are "*read out from said frequency offset detection unit*." Support for this claim limitation may be found at the exemplary passage in Applicant's Specification at page 10, lines 2-16. Applicant respectfully requests that this rejection be withdrawn.

Claims 1, 3, 9-13 and 17-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hirata, U.S. Pat. App. Pub. No. 2001/0004373, further in view of Uda, U.S. Pat. No. 6,226,505 further in view of Kondo, U.S. Pat. No. 6,597,728.

Claims 2 and 4-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hirata, U.S. Pat. App. Pub. No. 2001/0004373, further in view of Uda, U.S. Pat. No. 6,226,505, in view of Kondo, U.S. Pat. No. 6,597,728, and further in view of Maltsev, U.S. Pat. App. Pub. No. 2004/0190438.

Claims 15 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hirata, U.S. Pat. App. Pub. No. 2001/0004373, further in view of Uda, U.S. Pat. No. 6,226,505 further in view of Kondo, U.S. Pat. No. 6,597,728, and further in view of Applicant Admitted Prior Art.

These rejections are respectfully traversed in view of the following discussion.

## I. THE PRIOR ART REJECTIONS

### A. The 35 U.S.C. § 103(a) Rejection over Hirata, U.S. Pat. App. Pub. No. 2001/0004373 further in view of Uda, U.S. Pat. No. 6,226,505 further in view of Kondo, U.S. Pat. No. 6,597,728

The Examiner alleges that Hirata, U.S. Pat. App. Pub. No. 2001/0004373, (Hirata),

further in view of Uda, U.S. Pat. No. 6,226,505 further in view of Kondo, U.S. Pat. No. 6,597,728, (Uda and Kondo), makes obvious the invention of claims 1, 3, 9-13 and 17-18.

The Examiner alleges that one of ordinary skill in the art would have been motivated to modify Hirata with the teaching from Uda and Kondo to form the invention of claims 1, 3, 9-13 and 17-18. Applicant submits, however that these references would not have been combined and even if combined, the combination would not teach or suggest each element of the claimed invention.

Indeed, Applicant submits, however, that neither Hirata, nor Uda and Kondo, nor any alleged combination thereof, teaches or suggests:

"*a detection value conversion unit which converts the phase moving amount detection values read out from said frequency offset detection unit in accordance with a majority determination result from said majority determination unit,*

*wherein said detection value conversion unit converts negative phase moving amount detection values to +360° + the negative phase moving amount detection values when it is determined that a number of negative detection values is smaller than the majority determination result; and*

*wherein said detection value conversion unit converts the positive phase moving amount detection values to -360° + the positive phase moving amount detection values when it is determined that a number of positive detection values is smaller than the majority determination result*," of Applicant's independent claims 1 and 17, and similarly independent claim 3.

The Examiner admits that Hirata fails to teach Applicant's claimed invention of, "*an AFC (Auto Frequency Control) control unit, characterized in that said AFC control unit*

*comprises: a majority determination unit which determines whether each of phase moving amount detection values by a plurality of frequency offsets, which are detected for a predetermined time and read out from said frequency offset detection unit, is a positive value or a negative value, and totalizes to determine which of the positive values and the negative values are larger in number; a detection value conversion unit which converts the phase moving amount detection values read out from said frequency offset detection unit in accordance with a majority determination result from said majority determination unit*."

Examiner states on page 5 of the Office Action under the 35 U.S.C. §112, second paragraph rejection that Applicant's limitation, "*a detection value conversion unit which converts the phase moving amount detection values read out from said frequency offset detection unit in accordance with a majority determination result from said majority determination unit*," "will be construed as adding some correction to the output of the majority determination unit," and alleges that Uda teaches Applicant's above-identified limitation at column 5, lines 61-64 that states:

> The correction amount selection section 205 selects a required level from correction amount data of a plurality of levels which are stored in the memory 206 on the basis of the state determination result. (Emphasis added.)

First, Uda fails to convert the phase moving amount detection values, but rather "selects a required level" of correction amount data from a number of levels stored in memory for subsequent output. Uda fails to teach or suggest converting the demodulated output voltage signals 14-15, 16 and 18 that are used for reception data processing, (see column 2, lines 33-40), but instead teaches a look-up function of stored data in a memory. Uda discloses that when a frequency error is detected between the frequency of the frame sync portion and the local oscillation frequency, a correction control section 108 selects

correction amount data 20 preset in a memory and outputs that correction amount data 20 to a D/A converter 109. (At column 2, lines 50-62, consistent with the Examiner's above citation to Uda at column 5, lines 61-64.)

Furthermore, with respect to the limitation Applicant has added from dependent claim 2, (and similarly claims 4-8), the Examiner states that Maltsev modifies Uda by disclosing an amount of correction to be $\pm$ 360°.

However, as argued above, Uda fails to disclose *converting the phase moving amount detection values*, but rather merely retrieves a value from a memory. Therefore, the combination of the disclosure of Maltsev with Uda would merely adjust the correction amount data 20 of Uda by Maltsev's disclosure of a multiple of $2\pi$, (paragraph [0027]).

Additionally, Maltsev's disclosure at paragraph [0027] merely adjusts first and second phase shift estimates (by multiples of $2\pi$), which are not equivalent to Applicant's claimed *phase moving amount detection values*, which are not estimates, but actual detected values per Applicant's claimed invention.

Therefore, Uda and Maltsev fail to overcome the deficiencies of Hirata.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection since the alleged prior art references to Hirata and Uda and Kondo (either alone or in combination) fail to teach or suggest each element and feature of Applicant's claimed invention.

**B. The 35 U.S.C. § 103(a) Rejection over Hirata, U.S. Pat. App. Pub. No. 2001/0004373 further in view of Uda, U.S. Pat. No. 6,226,505, in view of Kondo, U.S. Pat. No. 6,597,728, and further in view of Maltsev, U.S. Pat. App. Pub. No. 2004/0190438**

The Examiner alleges that Hirata, U.S. Pat. App. Pub. No. 2001/0004373, (Hirata), further in view of Uda, U.S. Pat. No. 6,226,505, in view of Kondo, U.S. Pat. No. 6,597,728, and further in view of Maltsev, U.S. Pat. App. Pub. No. 2004/0190438, (Uda, Kondo and Maltsev), makes obvious the invention of claims 2 and 4-8.

Applicant has canceled claims 2 and 4-8 in light of the amendment to Applicant's claimed invention of independent claims 1 and 3.

**C. The 35 U.S.C. § 103(a) Rejection over Hirata, U.S. Pat. App. Pub. No. 2001/0004373 further in view of Uda, U.S. Pat. No. 6,226,505 further in view of Kondo, U.S. Pat. No. 6,597,728, and further in view of Applicant Admitted Prior Art**

The Examiner alleges that Hirata, U.S. Pat. App. Pub. No. 2001/0004373, (Hirata), further in view of Uda, U.S. Pat. No. 6,226,505 further in view of Kondo, U.S. Pat. No. 6,597,728, and further in view of Applicant Admitted Prior Art, (Uda, Kondo and AAPA), makes obvious the invention of claims 15 and 20.

The Examiner alleges that one of ordinary skill in the art would have been motivated to modify Hirata with the teaching from Uda, Kondo and AAPA to form the invention of claims 15 and 20. Applicant submits, however that these references would not have been combined and even if combined, the combination would not teach or suggest each element of the claimed invention.

That is, Uda, Kondo and AAPA fails to make up for the deficiencies of Hirata as discussed above.

The Examiner asserts that AAPA discloses a distribution of the phase shift detection values after conversion in accordance with a majority determination result from said majority

determination result in a Gaussian distribution.

However, even assuming *arguendo* that the Examiner's position has some merit, Uda, Kondo and AAPA fails to teach or suggest, "*a detection value conversion unit which converts the phase moving amount detection values read out from said frequency offset detection unit in accordance with a majority determination result from said majority determination unit, wherein said detection value conversion unit converts negative phase moving amount detection values to +360° + the negative phase moving amount detection values when it is determined that a number of negative detection values is smaller than the majority determination result; and wherein said detection value conversion unit converts the positive phase moving amount detection values to -360° + the positive phase moving amount detection values when it is determined that a number of positive detection values is smaller than the majority determination result*." Therefore, Uda, Kondo and AAPA fails to overcome the deficiencies of Hirata.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection since the alleged prior art references to Hirata and Uda, Kondo and AAPA (either alone or in combination) fail to teach or suggest each element and feature of Applicant's claimed invention.

### D. Newly Added Independent Claims 21-22 with Respect to the Applied Prior Art References

With respect to Applicant's newly added independent claims 21-22, the applied prior art references and any combination thereof fail to teach or suggest, "*wherein a distribution of the phase shift detection values after conversion in accordance with a majority determination*

*result from said majority determination result in a Gaussian distribution, and wherein a central value of the distribution and an average value of the distribution have approximately the same value*."

Applicant has rewritten in independent form the allowable subject matter of claims 16 and 20 indicated on page 14 of the Office Action. Therefore, none of the cited prior art references nor any alleged combination thereof teaches or suggests these features of Applicant's claimed invention with respect to newly added claims 21-22.

## II. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1, 3, 9-13, 17-18 and 21-22, all of the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 7/14/08

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